

**FLATHEAD COUNTY  
LAKE AND LAKESHORE PERMIT APPLICATION**



1. Submit Application To:

Flathead County Planning & Zoning, 1035 First Avenue West, Kalispell, MT 59901

Telephone: (406) 751-8200 Fax: (406) 751-8210

2. **Filing Fee:** **Administrative Permit/Renewals :** \*\*

Base Fee for one activity: \$150

Each additional activity: \$100

**Standard Permit:**

Base fee for one activity: \$250

Each additional activity: \$100

**Variance - Minor:** \$350

**Variance - Major:** \$1,000

\*\* These activities include :

1. Single Residential Docks and Gangways,
2. Shore Stations & Watercraft Lifts
3. Rip Rap above the high water mark
4. Residential water lines (a DNRC License is required)
5. Decks, Walkways, and Stairways
6. Free-standing pilings adjacent to dock



3. Owner: Rick and Robin Blackwood Applicant: Mark Lorang, The University of Montana  
Address: 3050 Harper Puckett Rd., Address: 311 BioStation Lane  
City/State/Zip: Bozeman, MT 59718 City/State/Zip: Polson, MT  
Phone: 406 580-4850 Phone: 982-3301 ext 231

*Note: If applicant is not owner, the attached authorization form must be filled out and signed.*

4. CONTRACTOR (or person responsible for doing the work, if other than above):

Name RKZ Enterprises Mail Address 31823 Zavala Lane  
City/State/Zip Bigfork, MT, 59911 Phone 406 982-3326

5. LOCATION OF THE PROJECT: Lake Flathead Lake  
Legal Description ASSR #0000003743 Section S36 Township T23 N Range R20 W  
Street Address 240 Holt Drive, Bigfork, MT 59911  
How many feet of the lake frontage do you own? ~400

6. ROAD DIRECTIONS TO REACH SITE:

High 35 to Bigfork. turn right (west) at Holt drive and go approximately 1/2 mile down Holt drive. Driveway to property is directly across from the US Post Office. Drive straight to home at base of hill. (See figure 1 of attachment)

7. EXISTING STRUCTURES ON THE SITE: (Describe and give the dimensions of all structures, i.e., docks, boat ramps, boat shelters, buildings, retaining walls, etc., that exist on the lake or within 20 horizontal feet of the average high water line of the lake.)

24'x24' lake cabin. no water or toilet services in cabin. A 65' x 45' F dock extends out from deck of cabin (see figure 1 in attachment)

8. NATURE OF PROPOSED WORK: (Describe in words what you propose to build, demolish, install, dredge, or fill. Give dimensions, materials and list heavy equipment, if any.)

Construction of a dynamic gravel beach and cobble spit surrounding exiting dock (see attachment for details, drawings and cross-sections). Trucks will haul material to lake via road on neighboring property (Keenan figure 1), an excavator will be used to place material.

9. WILL THE USE OF THIS PROPERTY BE (check one):

Individual Lot Owner X

Joint Use (Adjoining Properties) \_\_\_\_\_

Commercial \_\_\_\_\_

Homeowners Association \_\_\_\_\_

Other (specify) \_\_\_\_\_

10. DESCRIBE, IN FULL, ANY ADVERSE ENVIRONMENTAL IMPACTS THAT MAY OCCUR AS A RESULT OF THE PROPOSED ACTIVITY (e.g., impacts on water quality or fish and wildlife habitat, increased sedimentation, discharge of toxic chemicals):

This is a shoreline restoration project that will create additional wetland habitat and improve water quality in the area.

11. WHAT MEASURES WILL BE TAKEN TO REDUCE OR ALLEVIATE ANY ADVERSE IMPACTS LISTED ABOVE?

A tracked truck will be used to haul material across the lake bed

12. PROJECT INFORMATION: (Maps and drawings must be attached. See Pages 3 and 4 for directions.)

A. Is Vicinity Plan Attached?

X

B. Is Site Plan Attached?

X

C. Is Project Drawing Attached?

X

\_\_\_\_\_



13. SANITATION INFORMATION: Does the proposed activity involve a structure connected to a private well and/or septic system? Y\_\_\_\_\_ NX\_\_\_\_\_

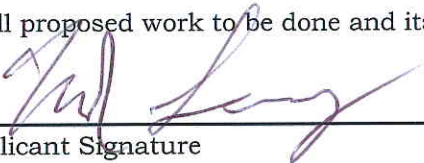
If yes, the following section is to be completed by the Flathead City/County Environmental Health Office:

Does the proposed development comply with the Flathead County Regulations for Onsite Sewage treatment systems? Y\_\_\_\_\_ N\_\_\_\_\_ N/A\_\_\_\_\_

Sanitarian:\_\_\_\_\_ Date:\_\_\_\_\_

14. AFFIDAVIT:

I hereby certify and say that to the best of my knowledge and belief, the statements contained in this Application, together with the plan and other data submitted, are a true and complete statement of all proposed work to be done and its effects or probable effects on the lake and lakeshore.

 2-12-14  
Applicant Signature Date

- Note: a. The signing of this application signifies approval for Flathead County Planning & Zoning staff to be present on the property for routine monitoring and inspection during the approval and development process.
- b. Work will be inspected for conformity with Permit.
- c. Permit expires one (1) year from date of issuance, unless renewed by governing body upon written request of the Applicant.

Updated: 07/31/12





## LAKE AND LAKESHORE PERMIT CONTRACTOR AUTHORIZATION


FILE #: \_\_\_\_\_ APPLICANT: Mark Lorang, The University of Montana, Flathead Lake  
Biological Station  
LOCATION OF THE PROJECT: 240 Holt Drive, Bigfork, MT 59911  
LAKE: Flathead Lake

CONTRACTOR: RKZ Enterprises  
MAIL ADDRESS: 31823 Zavala Lane  
CITY / STATE / ZIP: Bigfork, MT, 59911  
PHONE: 406 982-3326

I authorize the release and transmittal of the required on-site Lake & Lakeshore Permit and file copy to the above-named contractor. The original shall be transmitted to the applicant address as listed on the Flathead County Lake & Lakeshore Permit.

  
APPLICANT SIGNATURE  
*Owner*

2-6-14  
DATE

  
Applicant Signature

2-12-14



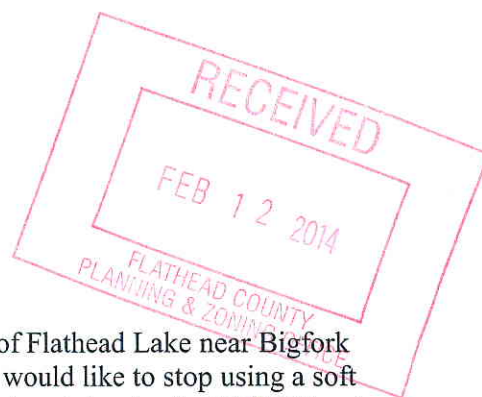
## Project Title: Shoreline Restoration –Blackwood Project

### Project Overview:

**Goal:** Rick and Robin Blackwood own property on the North Shore of Flathead Lake near Bigfork (Fig. 1). This property has a severe erosion problem (Fig. 2) that they would like to stop using a soft structure gravel beach approach that mimics the shoreline restoration steps taken by the USFWS and MTFWP on those water fowl production (WPA) properties immediately to the west (Fig. 3). The Blackwood's approach is to utilize the concept of a re-curved spit (Fig. 3 inset) to perform two functions; 1) stop the loss of land by stabilizing the shoreline and 2) provide protection from waves and the coupled battering action of logs for their existing dock. They also wish to contain the gravel that they place on their property. The restoration goal is to have the river, waves, wind and natural plant colonization do the work of shoreline restoration once the shoreline position has been stabilized with gravel and cobbles.

**Natural Processes:** This shoreline restoration plan is intended to work with the existing processes of river currents and lake waves delivering new logs each year, including the production and along shore drift of fine wood chips referred to as peat and the deposition of wind-blown sand during lake drawdown. During lake draw-down the lake bed is exposed and winds blowing over the lake bed transport large volumes of sand. The wind-blown sand tends to deposit on the top backside of the gravel beaches bordering the wetland complex. This process of wind deposition of sand and silt encourages colonization of riparian plants including rush, sedges, grasses, herbaceous plants and shrubs (See inset photo B in Fig. 4). The peat is a dark fine grained organic material that collects on shore and in the waters immediately lake-ward of the shoreline. It is formed as log rafts build along the shoreline and logs abrade each other with each storm. It is anticipated that the peat like material and logs will over the years fill in the spit embayment (Fig. 4 yellow stippled areas) and naturally become colonized with riparian and wetland plants in the same manner that has occurred on the WPA to the west (Fig. 3 and Photo inset C Fig. 4).

**Construction Steps:** The inside of the spit will skirt the outside perimeter of the dock (Figs. 4 & 5). Logs will be brought in and laid on the lakebed fronting the west and south sides of the dock (Fig. 5) with a cover layer of pit-run sand and gravel laid on top of the logs. Cobbles will be placed on top of the logs and against the south and west side of the dock extending lakeward forming the inside portion of the re-curved spit (Fig. 4). Pit-run gravel will be placed against the cobbles forming the core of the spit with 3" minus drain rock placed on top of the pit run material to form a gravel beach that will blend in with the existing shoreline west of their dock and beach house (Figs. 4 & 6 bottom panel). The shore attached sections of the dynamic beach will be constructed of two layers just as the gravel beaches were constructed on the WPA (Figs. 4 and 6 top panel). A shore attached V-shaped wing will be constructed along each property boundary to prevent erosion of the ends and to contain gravels within the Blackwood property (Fig. 7). These areas will be seeded with native grasses and planted with willows. Material will be hauled to the lake using the existing haul road on Mr. Bob Keenan's property just to the west (Fig. 1). All material will be stock piled on the lake bed (yellow dot) loaded into a track-truck for the final haul of material across the lake bed to the Blackwood property. The track truck will dump material at final location and another excavator will complete the final placement of material according to plan view (Fig. 4) and cross-sections (Figs. 5, 6 & 7). The Blackwood's have made arrangements with the Dockstaders to allow hauling of material and have their permission for such activities. Two weeks are anticipated for construction which we hope to





start and complete in January while lake bed is frozen. A list of material size and volumes is shown in figure 4 and corresponding cross-sections (Figs. 6 & 7).

This project was designed by Dr. Mark Lorang, the University of Montana, Flathead Lake Biological Station in collaboration with the Blackwood's and through a contract with the University of Montana. Dr Lorang will oversee construction of the project. RKZ enterprises will be hired by the Blackwood's to provide all materials and placement. All gravel will come from upland gravel-pits not those located in river floodplains. The same gravel pits used to provide material for the USFWS and MTFWP north shore erosion control projects.

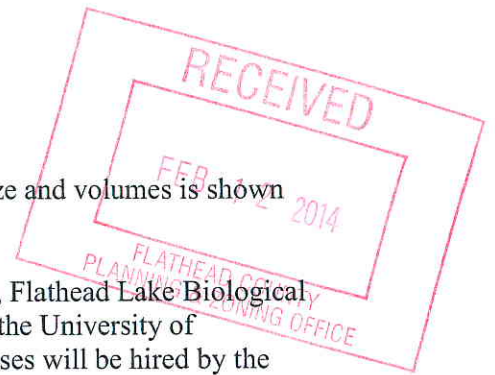


Figure 1. A location map showing the Blackwood property (red polygon) relative to neighboring properties off of Holt Drive in Bigfork, MT. The existing haul road on the Keenan property will be used to bring material to the lake bed (yellow dot). Material will then be hauled across the lake bed (yellow dotted line) using a tracked haul-truck. We hope to do this while the lake bed remains frozen.



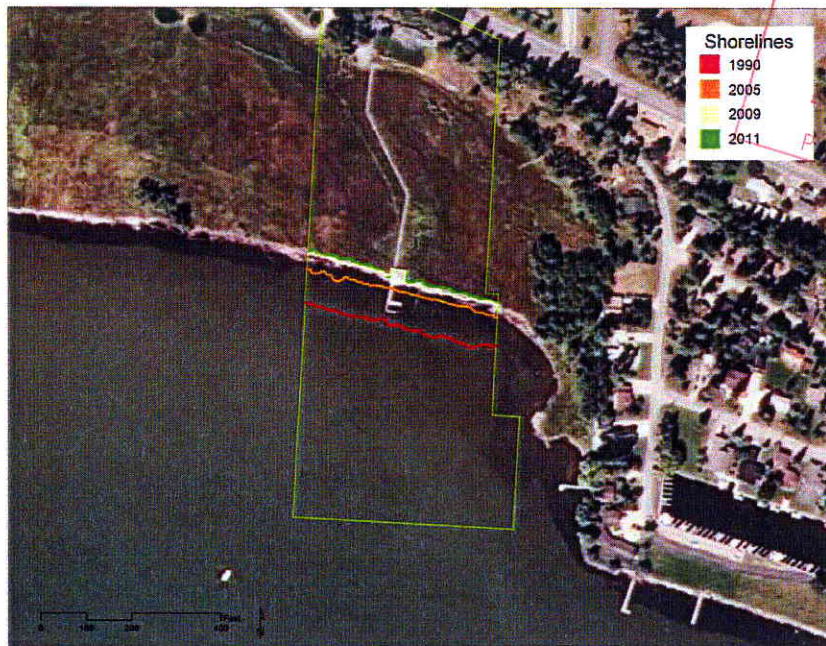


Figure 2. This graphic shows the Blackwood property (green polygon) and position of historical shoreline locations that depict the extreme loss of land.



Figure 3. This graphic is a July 23, 2013 aerial image of the North Shore. The insert shows a close-up of the spit constructed in 2009 on the USFWS (WPA) land. This structure is the design feature chosen for the Blackwood property. It will provide shoreline stability plus trap logs and peat material allowing natural shoreline restoration processes to develop additional wetland habitat while improving water clarity.



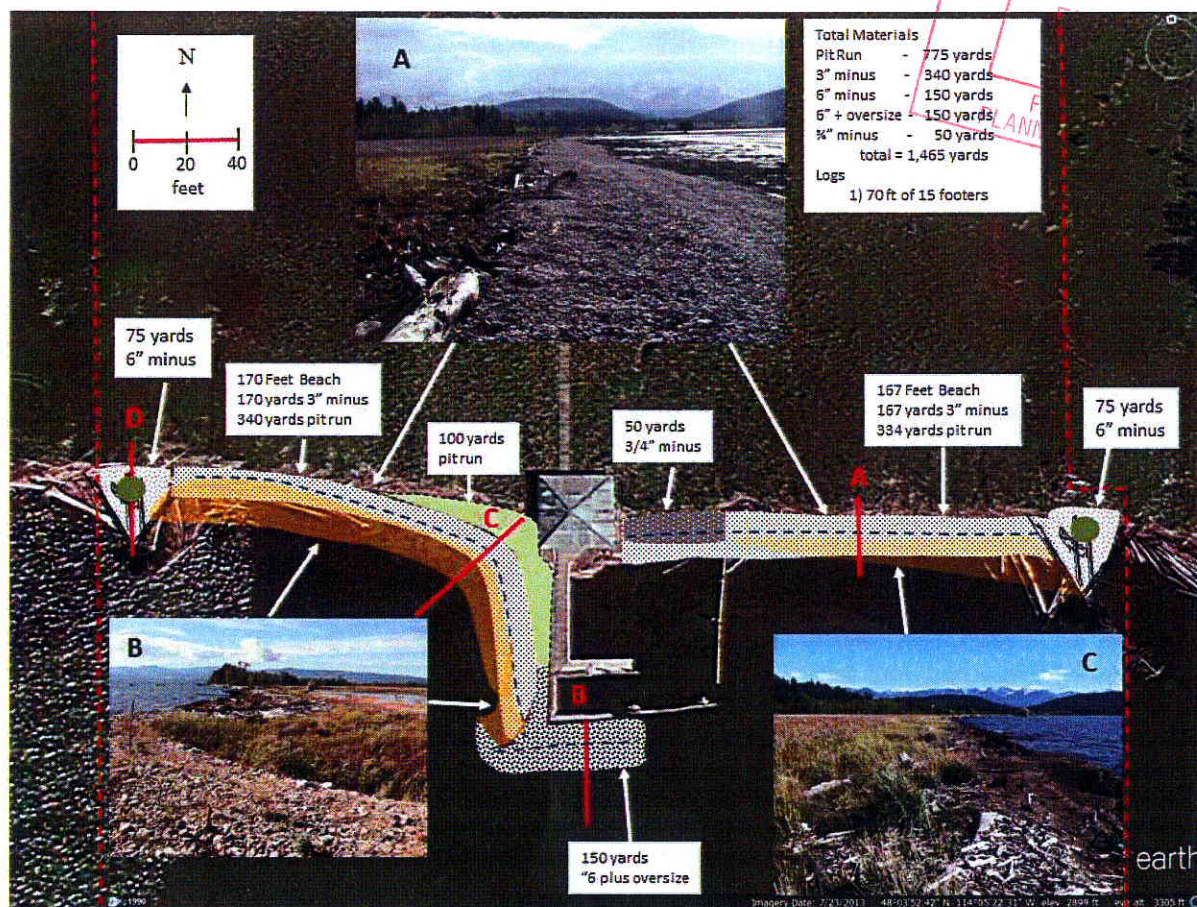


Figure 4. This plan view of the Blackwood shoreline restoration project shows location and spatial extent of all material, including size and volumes. Blue dotted line shows position of full-pool water line. The red lines with letters correspond to cross-sections shown in figures 6 and 7. The photo inset (A) depicts what the shore attached gravel beach (Fig. 6 top cross-section A) will look like following construction and before 2014 full pool season. Yellow stippled areas depict extent of expected future buildup of logs and peat material followed by natural re-colonization of wetland plants similar to what has occurred on the WPA. Inset photos B and C both taken 10-4-2013 show what the Blackwood beach and shoreline will look in 5 to 10 years. Photo A was taken in April 2007 and photo C inset was in the same location 6 years later.



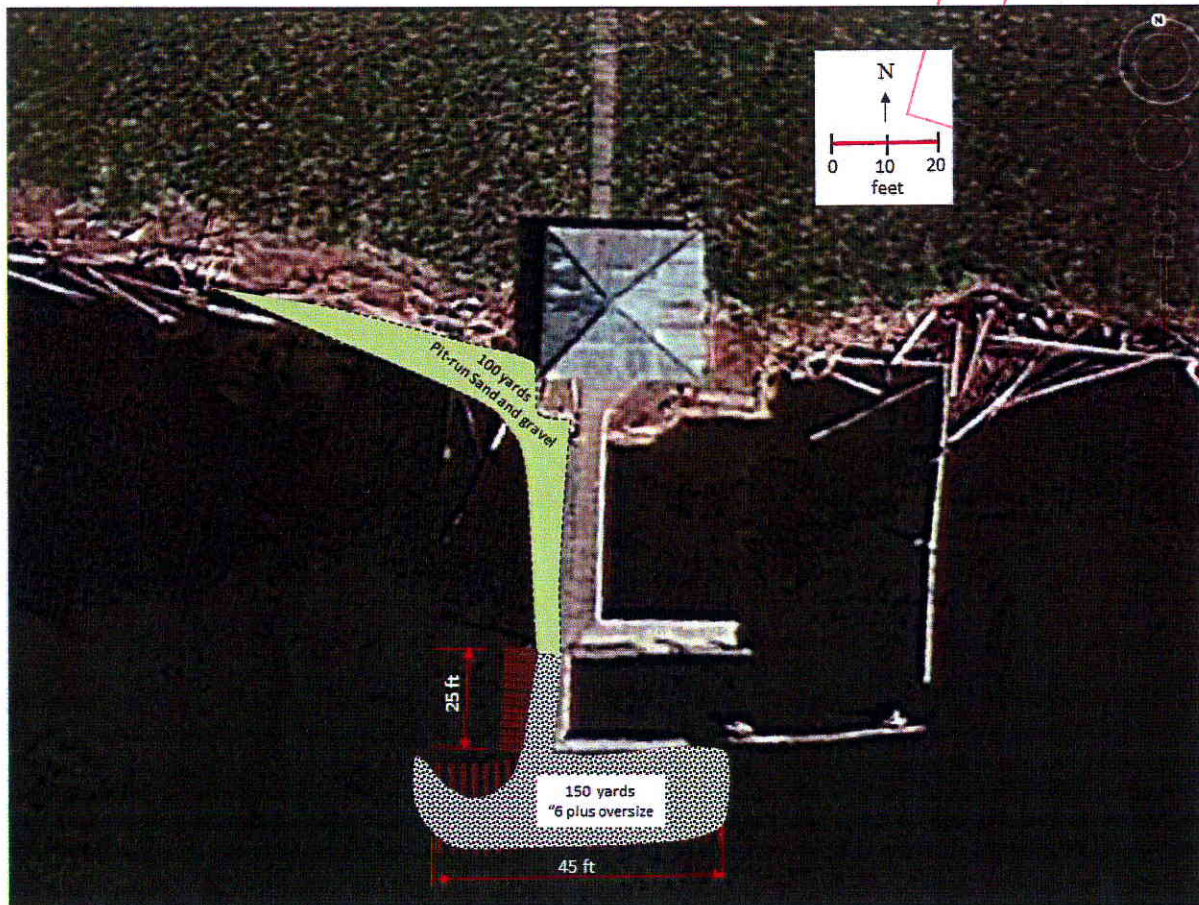


Figure 5. This 7-23-13 photo shows phase 1 of construction, the placement of logs on the lakebed, plus location of cobble piled against the dock. These rocks will form the inner wall of the spit.

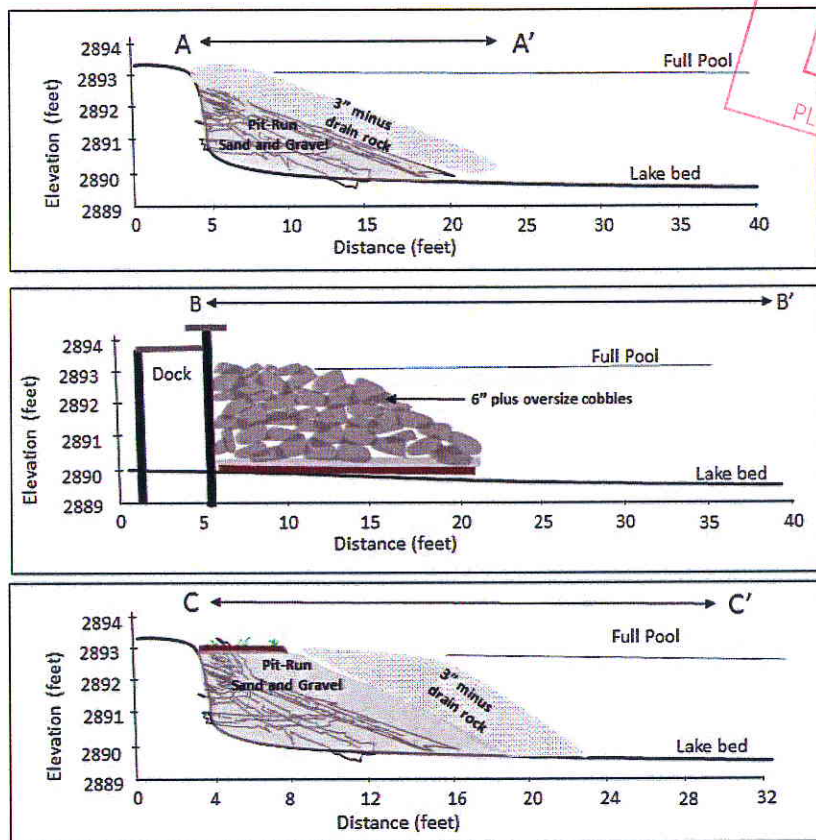


Figure 6. Cross-sections A, B and C of the proposed project corresponding to locations depicted with red lines in figure 4.



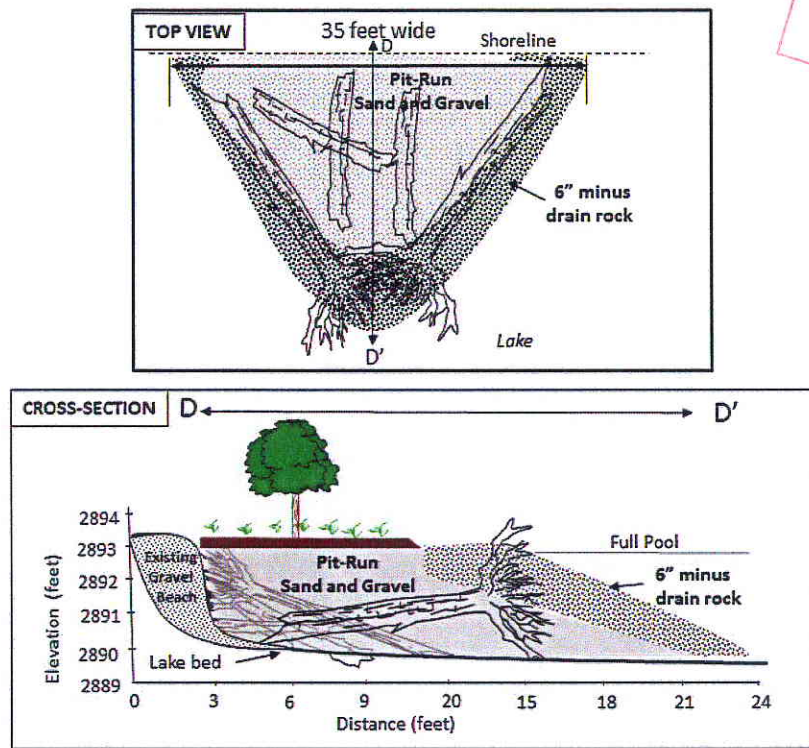


Figure 7. Plan view (top) and cross-section view of each V-end structure located near property boundaries as shown in Fig. 4. These structures will prevent loss of gravel to neighboring properties and protect property ends from shoreline erosion.